IN THE CLAIMS:

Amendments to the Claims

Please cancel claims 1-11 without prejudice or disclaimer of the subject matter thereof, please amend claim 12, rewrite claims 13 and 14 in independent form and add the new claims as shown below.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-11 (canceled)

12. (currently amended) The bio electron microscope according to claim ~~11~~ 13, wherein to set an accelerating voltage of an electron beam irradiated onto said specimen to a desired value, at least one of an emission current of an electron gun, an exciting current of electron lenses in illumination and imaging system and an electron beam apertures position which are optimum to the accelerating voltage is held as a recipe in a controlling computer.

13. (currently amended) ~~The~~ A bio electron microscope ~~according to claim 11~~, wherein in an electron microscope having an electron illumination system converging or collimating an accelerated electron beam to irradiate it onto a specimen and an imaging system detecting an electron transmitting the specimen or a secondary electron and a reflected electron emitted from the surface of the specimen to obtain a magnified image, an electron energy filter is provided between an electron detector of the imaging system which detects an electron beam transmitting the specimen and the specimen, and wherein in an image analysis part and an image display part, ~~similarity between~~ an observed image of virus or protein

included in ~~said~~ the specimen and a reference image of known virus or protein ~~is~~ are compared and subjected to quantitative analysis using image processing software, and the species of virus or protein or the species of a substance in ~~said~~ the specimen is identified as a result of the comparison so as to display the result.

14. (currently amended) A ~~The~~ bio electron microscope ~~according to claim 11~~, wherein in an electron microscope having an electron illumination system converging or collimating an accelerated electron beam to irradiate it onto a specimen and an imaging system detecting an electron transmitting the specimen or a secondary electron and a reflected electron emitted from the surface of the specimen to obtain a magnified image, an electron energy filter is provided between an electron detector of the imaging system which detects an electron beam transmitting the specimen and the specimen, wherein chip-like specimen preparation equipment using an MEMS (Micro Electro Mechanical Systems) technique is mounted on a specimen stage part.

15. (new) The bio electron microscope according to claim 14, wherein to set an accelerating voltage of an electron beam irradiated onto said specimen to a desired value, at least one of an emission current of an electron gun, an exciting current of electron lenses in illumination and imaging system and an electron beam apertures position which are optimum to the accelerating voltage is held as a recipe in a controlling computer.

16. (new) An observation method utilizing a bio electron microscope, comprising the steps of:

irradiating an accelerated electron beam to a specimen by an electron illumination system including at least an electron gun, a scanning coil, a plurality of lenses and an electron beam aperture;

detecting at least one of a secondary electron, a reflected electron and a transmission electron generated by the irradiation of the electron beam to the specimen;

obtaining an image in accordance with the detected electron; and

controlling an accelerating voltage of the electron gun based on information of a recipe server storing at least one of recipes including a recipe of an emission current of the electron gun, a recipe of an exciting current of one of the plurality of lenses, and a recipe of a position of the electron beam aperture.

17. (new) An observation method according to claim 16, wherein the step of irradiating includes utilizing different accelerating voltages for irradiating the accelerated electron beam to the specimen; and

further comprising a step for determining a critical electron accelerating voltage by comparing an image obtained when the accelerating voltage of the electron beam is 30 kV and an image obtained when the accelerating voltage of the electron beam is under 30 kV;

wherein the step for controlling utilizes controlling the accelerating voltage in a range of 1.2 to 2.4 times of a critical electron accelerating voltage;

wherein the critical electron accelerating voltage is defined as a voltage in which at least one of a resolution power of the image is lowered to one third of a resolution power of the image obtained when an accelerating voltage is 30 kV and a contrast of the image is lowered to one twentieth of a contrast of the image obtained when an accelerating voltage is 30 kV.

18. (new) An observation method according to claim 16, wherein the step of irradiating includes utilizing different accelerating voltages for irradiating the accelerated electron beam to the specimen;

further comprising a step for determining a critical electron accelerating voltage by comparing an image obtained when the accelerating voltage of the electron beam is 30 kV and an image obtained when the accelerating voltage of the electron beam is under 30 kV;

the step for controlling includes controlling the accelerating voltage to a minimum accelerating voltage;

wherein the minimum accelerating voltage is defined as a voltage in which substantially a same resolution power and contrast of an image is obtainable as a resolution power and contrast of an image obtained when the accelerating voltage is 30 kV.

19. (new) An observation method according to claim 16, further comprising the steps of:

comparing an observed image and a reference image to quantitatively analyze a similarity between the observed image and the reference image; and

identifying at least one of a species of virus, a species of protein and a species of a substance included in the specimen based on a result of the comparison.

20. (new) An observation method according to claim 16, wherein chip-like specimen preparation equipment using an MEMS (Micro Electro Mechanical Systems) technique is mounted on a sample stage for holding the specimen.

21. (new) A bio electron microscope comprising:

an electron illumination system including an electron gun, a scanning coil, a plurality of lenses and an electron beam aperture;

a specimen holder for mounting a specimen;

an imaging system for obtaining an image, including a detector for detecting at least one of secondary electron, a reflected electron and a transmission electron generated by irradiation of an electron beam to the specimen;

a recipe server for storing at least one of recipes including a recipe of an emission current of said electron gun, a recipe of an exciting current of one of the plurality of lenses and a recipe of a position of the electron beam aperture; and

a controlling computer for controlling an accelerating voltage of the electron gun based on information stored in the recipe server.

22. (new) A bio electron microscope according to claim 21, further comprising:

an image analyzing part that compares at least one of a resolution power of images and a contrast of images;

wherein the image analyzing part determines a critical electron accelerating voltage defined as at least one of a voltage in which a resolution power of the image is lowered to one third of resolution power of the image obtained when an accelerating voltage is 30 kV and a contrast of the image is lowered to one twentieth of a contrast of the image obtained when an accelerating voltage is 30 kV; and

wherein the controlling computer controls the accelerating voltage in a range of 1.2 to 2.4 times of the critical electron accelerating voltage.

23. (new) A bio electron microscope according to claim 21, further comprising:

an image analyzing part that compares at least one of a resolution power of images and a contrast of images;

wherein the image analyzing part determines a minimum accelerating voltage defined as a voltage in which substantially a same resolution power and contrast of an image is obtainable as a resolution power and contrast of an image obtained when the accelerating voltage is 30 kV; and

wherein the controlling computer controls the accelerating voltage to the minimum accelerating voltage.

24. (new) A bio electron microscope according to claim 21, wherein the controlling computer includes a comparator which compare an observed image and a reference image and identifies at least one of a species of a virus, a species of protein and a species of a substance included in the specimen as a result of the comparison.

25. (new) A bio electron microscope according to claim 21, further comprising chip-like specimen preparation equipment using an MEMS (Micro Electron Mechanical Systems) technique.